

File

FACILITIES INSPECTION SECTION
INSPECTION REPORT FORM



I

Name of Company BLADIX CORP. Date 6-21-77

City SOUTH BEND County ST JOSEPH Telephone No.

Persons Contacted JAMES WICKS, PLANT ENGINEER

Purpose of Inspection FAMILIARIZATION

Products AIRCRAFT LANDING GEAR, AUTOMOTIVE BRACKS AND STEERING PARTS, JET ENGINE FUEL CONTAINERS

No. of Employees 5814 Receiving Stream CITY

Source of water CITY No. of outfalls 2

Sewage disposal CITY Waste flow 15 MGD

Permit No. NONE Certified Operator NONE

Status: Adequate Inadequate Undetermined-Submitted
By M.E. GILES

Description of production, manufacturing operations, waste treatment facilities, liquid waste disposal, cooling water additives, boiler treatments, permit compliance. General remarks, comments, recommendations, conclusions.

THERE ARE THREE DIVISIONS AT THE SOUTH BEND LOCATION; THE AIRCRAFT-BRACK AND STEERING DIVISION, THE ENERGY CONTROLS DIVISION AND THE BRACK AND STEERING DIVISION. EACH OF THE DIVISIONS WILL BE DISCUSSED SEPARATELY BELOW.

AIRCRAFT-BRACK & STEERING DIVISION

THE DIVISION EMPLOYS 1071 PEOPLE. PRIMARY PLANT FUNCTIONS INCLUDE ANODIZING, PLATING-RAB MACHINING PROCESSES. THE PLANT USES BOTH A SULFURIC ACID ANODIZE AND A CHROMIC ACID ANODIZE. THE COMPANY DOES CHROMIUM PLATING OF STEEL PARTS, HARDCOAT PLATING (WHICH IS MORE LIKE ANODIZING) OF ALUMINUM PARTS, CHROMIUM PLATING, RAB TITANIUM-CHROMIUM PLATING. PINSEWATERS FROM THE ANODIZING AND PLATING LINES GO TO THE CITY WITHOUT TREATMENT. VAN WATERS & ROGERS (FORMERLY ASSOCIATE CO.) PICKS UP ALL OF THE UNDESIRABLE SOLVENTS WHILE ALL OF THE EMULSION WASTE (OIL, ETC.) IS PICKED UP BY INDIANA WASTE SYSTEM.

ENERGY CONTROLS

EC EMPLOYS 2091 PEOPLE. THE MAIN PRODUCT FROM THIS DIVISION IS AN JET FUEL CONTROL DEVICE, SIMILAR TO A CARBUJETOR. RAW MATERIAL IS ALUMINUM BILLETS. PRIMARY

PLANT FUNCTIONS ARE SAND CASTING, MACHINING, ASSEMBLY, PLUS SOME ANODIZING AND IMMUNIZING. THE BINDER IN THE CASTING SAND IS LINDSEY OIL OR FISH OIL. THE ANODIZING IS CHROMIC ACID AND THE IMMUNIZING IS NITRIC ACID (CAUSTIC - HOT RINSE - NITRIC ACID). THE LARGEST DISCHARGE OF WATER TO THE CITY IS NON-CONTACT COOLING WATER FROM THE HEAT EXCHANGERS, WITH RINSEWATERS FROM THE ANODIZER AND IMMUNIZER MAKING UP THE REST OF THE FLOW FROM THIS AREA.

THERE IS A LARGE AMOUNT (540,000 GALLONS) OF #2 FUEL OIL FOR TESTING OF EQUIPMENT BURIED IN THIS AREA. THE COMPANY HAS AN SPILL PLAN.

BRAKE AND STEERING DIVISION

THE BRAKE & STEERING DIVISION MAKES BRAKE LININGS AND STEERING MECHANISMS (STEERING COLUMNS, ETC). PLANT FUNCTIONS INCLUDE MACHINING, WELDING, VACUUM PRESSING, ASSEMBLY, HEAT TREATING, AND ELECTROPLATING (COPPER-NICKEL-CHROME AND ZINC PLATING). WASTEWATER ~~GENERATED~~^{GENERATED} WOULD BE COOLING WATERS FROM THE TAP WELDING, VACUUM PRESSING AND HEAT TREATING AREAS, IN ADDITION TO RINSEWATERS FROM THE PLATING OPERATION. THE DIVISION EMPLOYS 2652 PEOPLE.

FINDINGS

WHILE NO PROBLEMS WERE WITH RESPECT TO CYANIDE ISOLATION, THERE WAS NO CURBING PROVIDED AND CYANIDE COMPANES WERE STORED WITH OTHER CHEMICALS, INCLUDING OXALIC ACID. A.S., ~~SYNTH~~^{RINSE} BREAKERS WERE IN ALL THE TANKS BUT THERE WAS NO BREAKWATER TANK OR OTHER BREAKWATER MECHANISM WHEREBY THE COMPANY WOULD BE IN LINE MAKE WITH THE 1975 POLICE CODE. ALSO, THE OIL STORAGE YARD WAS STILL ~~BEING~~^{BEING} TREATED AS A CATCH BASIN, WITH A SIGNIFICANT AMOUNT OF OIL BEING DISCHARGED TO THE SEWAGE WATER SYSTEM. SINCE THE D.E.T. TIT ~~IS~~^{IS} NEAR THE OIL STORAGE AREA AND ~~IS~~^{IS} PLUMES WERE APPEARING TO BE EMITTED AS FLAMING SOLIDS, ETC. JIM WILSON'S REPORT HAD NOT BEEN THAT THE COMPANY WAS NOT.

CONCLUSIONS

A LETTER WILL BE POSTED CITING THE ABOVE PROBLEMS AND REQUESTING CORRECTION.

Bendix Corporation
South Bend, Indiana

Waste streams as suggested from Division of Land Pollution Control files and waste hauler reports. (Quantities are based on 1979-1980 reports.)

Asbestos containing fire brick
Paint Wastes (VM + P Naptha, aliphatic hydrocarbon solvent, Methyl Isobutyl Ketone, Ethanol and Mineral Spirits)

Tie Bar Wastes
M.O.C.A. contaminated wastes (4,4-Methylene bis 2-Chloroaniline)
Raw M.O.C.A wastes (approximately 30 gal/yr)
Asbestos dust
Asbestos pellets
Asbestos
Soluble Oil and Water Mixture (approximately 10,000 gal/mo)
Hydroxide Sludge
Chromium Spray Booth Paint Wastes
Touch-up Paint Wastes
Salt Bath Salts (Chloride salts?)
Chromic Acid
Zinc Hydroxide/Calcium phosphate sludge
Lead Hydroxide/Lead sulfide sludge
Wastewater treatment sludge (approximately 300 tons/yr)
Iron/Zinc phosphate sludge
Heat Treating Salts
Chromic Acid contaminated fiberglass pit liner
Chromic anodic tank clean-out
Chrome plating tape
Nickel waste
T-Line cleanout
Stoddard Solvents
Foundry Sand (see below for analysis)
Cadmium hydroxide sludge
Ferro Cyanide and Cyanide wastes
Naphtna

Bendix Corporation makes brakes, steering systems, brake components and streets for automobiles and airplanes. They notified on 17 sites, including their plant at 401 Bendix Drive, South Bend, Indiana. The other 16 properties are off-site and under private ownership. The site names, dates, and addresses are:

St. Joseph County Landfill, Jackson and Locust Roads, 1940-70
St. Joseph County Landfill, U.S. 31 and Ireland, 1969-1971
Dollar Lake Site, SR 23 and Mayflower Road, Early to mid 1960's
Area West of Bendix Oil Tank, Linden Avenue, 1940-1970
Beck's Lake Site, Colfax and Kaley Streets, until mid 1950's
Butternut Road Site, Butternut and Douglas Roads, 6 months in 1955-1960

Former City/County Landfill, Bendix Drive North of Lincolnway West, until early 1960's
Fillmore Road North Site, Fillmore Road West of Mayflower, 1 to 1 1/2 years in mid 1950's
Douglas Road Site, Douglas and Bendix Drive, 1960s to closure
Linden Road Site, Linden and Chippewa Roads, 30 days, 1970's
Pine Road Site, Pine and Fillmore Roads, mid 1960's
Sample Street Lagoon Site, 3300 West Sample Street, 1956-1972
Speeks Site, Bendix Drive and Douglas Road, mid 1960's thru early 1970's
South Bend Avenue Site, South Bend and Twy Kenham Avenue, unknown
Schuman Dump Site, Mayflower and Ireland Road, 1960-1970
Western Avenue Site, Elmer, Huron, Hollywood and Ford, unknown
All St. Joseph County-All South Bend

The Bendix Corporation has operated from approximately 1930 to the present time, although off-site disposal was halted sometime around 1973. The disposal dates are approximate in most cases and represent a "best effort" by the company prior to their filing in March of 1984.

Foundry Sand, (in ppm)
phenols, 1.2-to-4.6
Naphthalene, .460-to-2.400
Phenanthrene, .2
Zinc, .43-38
Selenium, .08
Methylene Chloride, .012-to-9.2
TCE, .039
1,1,2,2-Tetrochloroethylene, .016
Butylbenzylphalataate, .6-to-.270
Arsenic, 17
Cadmium, 1.0-to-.01
Copper, 12
Lead, 14
Chromium, 6.7
Nickel, 3.4
Manganese, .053
Bis (2-ethylhexyl) phthalate, .680-to-.220
Toluene, .057
Pentachlorophenol, .520
1,3-Isobenzofurandione, 310

These numbers show some ranges resulting from many samplings at various dates. Note that cyanides, sulfates and chlorides were not run on these samples.

SB/sk

1976 Bendix Liquid Waste Removal Record

201,600 gallons emulsion
60,070 gallons Trichlorethylene (TCE) sludge
10,000 gallons Sodium Dichromate Waste
3,300 gallons Laquer Thinner Waste
1,500 gallons Copper Cyanide Stripper Waste
15,200 gallons Chromic Acid Waste
715 gallons Copper, Nickel and Cyanide Waste
825 gallons Cadmium Cyanide Waste
605 gallons methylene chloride
214,000 pounds Triad Sludge (unknown components)
33,225 gallons cyanide
1,045 gallons methyl chloroform
220 gallons Perchlorethylene
3 Transformers
3 Capacitors
1,265 gallons PCB oil
550 gallons PCB sludge
1,040 cubic yards/yr foundry sand (*see analysis other page in packet)

This is a tally of Bendix Corporation Liquid Waste Hauler reports for the year of 1976 to get an idea of wastes disposed of. This could be considered to be a representative sampling of the waste haulers reports and indicative of wastes possibly disposed of prior to 1973 or 1974 when their disposal practices were revised. Since many of the sites Bendix notified on fall into the period prior to 1973-4, this is a means to look at quantities and types of wastes possibly disposed of into off-site private and city/county facilities.

SB/sk